

**TASK ORDER B  
ATTACHMENT TO  
CONSULTING AGREEMENT  
BETWEEN SPONSOR AND ENGINEER,  
DATED \_\_\_\_\_, 2017**

**FURTHER DESCRIPTION OF SERVICES OF ENGINEER**

1. This Attachment is made a part of and incorporated by reference into the Professional Services Agreement made on January 1, 2016, between **TOWN OF ERIE, COLORADO (Sponsor)** and **ARMSTRONG CONSULTANTS, INC., (Engineer)** providing for professional engineering services. The Consultant's Services as described in Paragraph 2 of the Consulting Agreement are amended or supplemented as indicated below and the time periods for the performance of certain services are stipulated as indicated below.

2. **LOCATION** – Erie Municipal Airport, Erie, Colorado

3. **WORK PROGRAM** – Attached

**Element 1** – *Apron Rehabilitation-Replace Concrete Panels and Reseal Concrete Joints*

4. **FEES** - The fees will be as noted below. (All Fixed Lump Sums except for Section IV.B)

<b>I. Project Development</b>	\$2,650.00
<b>II. Design</b>	
<b>A. Preliminary Design</b>	\$4,920.00
Design Survey	\$4,256.00
<b>B. Final Design</b>	\$6,540.00
<b>III. Bidding and Contract Administration Services</b>	\$4,130.00
<b>IV. Construction Period Services</b>	
<b>A. Construction Administration Services</b>	\$2,840.00
<b>B. Construction Inspection Services<sup>1</sup> (Cost)</b>	\$44,137.00
Construction Inspection Services (Fixed Fee)	\$5,200.00
<b>C. Acceptance Testing Services</b>	\$6,720.00
<b>V. Project Closeout</b>	\$5,730.00
<b>Engineering Total</b>	\$87,123.00

*1) Total includes estimated Construction Inspection fees listed on rate sheet*

SPONSOR:  
**TOWN OF ERIE**

ENGINEER:  
**ARMSTRONG CONSULTANTS, INC.**

\_\_\_\_\_  
Tina Harris, Mayor

\_\_\_\_\_  
Dennis Corsi, President

**CONSTRUCTION INSPECTION SERVICES RATE SHEET:**

DIRECT EXPENSES					
Position	Regular Hourly Rate	Overtime Hourly Rate	Estimated Regular Hours	Estimated Overtime Hours	Estimated Total
Principal	\$207.00	-	1	-	\$207.00
Senior Project Manager	\$176.00	-	14	-	\$2,464.00
Project Engineer	\$113.00	-	16	-	\$1,808.00
Field Eng Supervisor	\$139.00	-	14	-	\$1,946.00
Resident Inspector	\$106.00	\$159.00	208	54	\$30,634.00
Clerical	\$76.00	\$114.00	-	-	\$0.00
ESTIMATED TOTAL DIRECT FEES					\$37,059.00
REIMBURSABLE EXPENSES					
Expense	Rate		Estimated Quantity		Estimated Total
Per Diem	\$59/day		34		\$2,006.00
Lodging	\$132/day		31		\$4,092.00
Vehicle Expenses	\$0.535/mile		1,366		\$730.00
Misc. Expenses	Lump Sum		\$250		\$250.00
ESTIMATED TOTAL REIMBURSABLE FEES					\$7,078.00
TOTAL ESTIMATED CONSTRUCTION INSPECTION FEES					\$44,137.00

**SCOPE OF WORK  
ERIE MUNICIPAL AIRPORT  
AIP NO. 3-08-0090-018-2017**

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**ELEMENT #1                      APRON REHABILITATION-REPLACE CONCRETE PANELS AND  
RESEAL CONCRETE JOINTS**

1. The terminal apron has several groupings of panels that are experiencing pavement failure. There is approximately 1,350 square yards of apron area that needs replacement. The damaged panels will be removed and replaced with state specification concrete panels at the same thickness as the existing concrete. They will be doweled together to tie the new panels to the existing concrete. Aircraft tie-downs will be replaced in the current locations and tie-downs that were previously removed and patched with concrete will be removed and patched with structural concrete repair mortar. The included project sketch depicts the general layout for the project.
  - 1.1. Pavement geometry will not be modified.
  - 1.2. No geotechnical investigation will be completed and the pavement section will NOT be redesigned.
  - 1.3. Resealing concrete joints will consist of sawing all existing concrete joints, removing existing sealant and backer rod, then sand-blasting all joints prior to placing new backer rod and joint sealant.
  - 1.4. New pavement markings will be designed meet FAA AC 150/5340-1L. Glass beads will be specified for the painted surfaces. Black paint will be used to outline new yellow markings. Any existing markings that do not meet FAA AC 150/5340-1L requirements will either be removed prior to joint resealing, or will be perpetuated based on the guidance received from the FAA Program Manager and Sponsor.

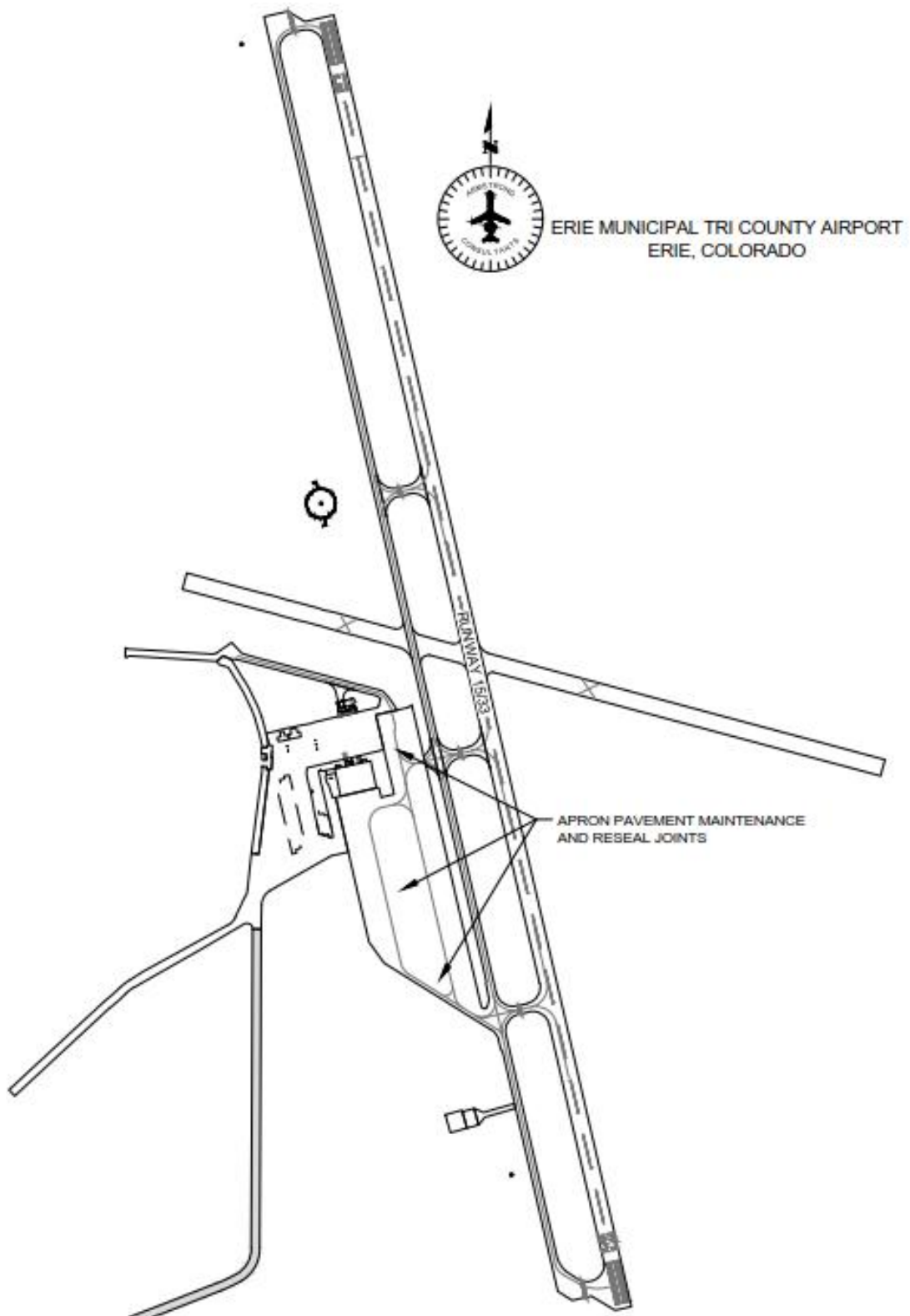
Estimated Construction Cost is: \$400,000

Estimated Construction Period is: 30 days<sup>1</sup>

*Note:*

*1) Should the Contractor exceed the specified construction period, additional construction period fees will be assessed according to the hourly rates and direct costs shown in the Construction Period Services Rate Sheet. The Sponsor may offset these fees by charging the Contractor liquidated damages in accordance with the Contract Agreement and Special Provisions developed as part of the bid documents for the project.*

## PROJECT SKETCH



## **I. PROJECT DEVELOPMENT**

The project development phase is intended to complete the necessary preliminary actions required to initiate the project in accordance with established Federal, State and Local policies and procedures.

Activities include:

1. Conduct a pre-design meeting/scoping conference with the Sponsor, FAA and State to establish parameters for the project definition and work areas, budget, schedule, and needs for topographic survey and geotechnical investigations.
2. Develop preliminary cost estimates for the proposed work.
3. Develop a preliminary phasing plan for the work involved with the project to identify critical stages of work and estimate the overall duration of the construction work associated project. This information will be used to determine appropriate length of time for the construction contract and identify potential divisions amongst the work that may be divided into separate bid schedules.
4. Develop a draft Scope of Work narrative for review and approval. The Engineer will assist the Sponsor with the submittal of a Record of Negotiations to document the fee negotiation performed for the project.
5. Prepare final Scope of Work and Contract.
6. Prepare Preliminary FAA Grant Application. Preparation of the application will include the following:
  - a. Prepare the following forms: SF424 and FAA Form 5100-100
  - b. Prepare Project Narrative and Sketch
  - c. Prepare Preliminary Estimate
  - d. Prepare the Standard DOT Title VI Assurances, Certification for Contracts, Grants, Loans and Cooperative Agreements and Sponsor's Certifications
  - e. Attach the current Grant Assurances and current Exhibit A Property Map.

The Engineer will submit the application to the Sponsor for approval and signatures.

## II. DESIGN

### A. Preliminary Design

The preliminary design phase is intended to identify and evaluate cost effective and practical solutions for the work items identified. The designer will complete its evaluation of alternatives through contacts with local authorities, field investigations and a practical design approach. The design will take advantage of local knowledge and experience and utilize expertise from recent construction projects to design a cost-effective project. Cost efficiencies will be realized in a lower initial cost and in lower long-term maintenance costs.

Activities include:

1. Prepare requirements for the design topographical survey. Work includes establishing the limits of the work area and developing survey criteria in accordance with FAA design guidance. A surveyor subconsultant will be employed to conduct the topographical survey in accordance with the requirements developed. Coordinate the subconsultant's work schedule with airport staff.
2. A geotechnical investigation will not be required for this project.
3. Prepare an overall Construction Safety and Phasing Plan (CSPP) in order to maximize project constructability and operational safety. A draft CSPP will be submitted to the FAA for review and comment when the design is approximately 25-35% complete.
4. Assist the Sponsor with the Disadvantage Business Enterprise (DBE) Plan.
  - a. Update the Sponsor's DBE Plan
  - b. Calculate a new 3-year DBE goal. Research the current State DOT certified DBE listings and area contractors to determine the availability of potential DBE contractors. Use the preliminary cost estimate, developed during the Project Development phase, to determine potential DBE work items.
  - c. Advertise developed DBE goal
  - d. Finalize the DBE plan and goals and assist the Sponsor in submitting these items to the FAA Civil Rights Office.
5. Analyze and process topographical survey data. Input raw survey data into computer aided drafting program, develop TIN surface model of existing ground contours, pavement edges, electrical system components, utilities, and any other miscellaneous items. Generate 3D contour model and prepare and process data for spot elevations, grading, drainage and pavement cross sections.
6. Review and evaluate project layout.
  - a. Verify existing ALP dimensions and data.
7. Evaluate local conditions:
  - a. Inventory local material suppliers, sources and capabilities.
  - b. Evaluate drainage conditions/requirements.
  - c. Review existing Pavement Strength Survey data.
  - d. Evaluate the need for any Design Modifications to Standards.

8. Prepare preliminary construction plans. Construction plans will be prepared depicting all of the work involved for Element 1. The following list of drawings will be used as a guideline. Drawings may be added or deleted during the design phase if required.

DESCRIPTION		ELEMENT 1
a	Cover Sheet	1 Sheet
b	General Notes, Legend and Survey Control	1 Sheet
c	Removals Plan	2 Sheets
d	Concrete Panel Replacement Plan	3 Sheets
e	Marking Plan and Details	2 Sheet
f	Typical Sections and Details	2 Sheet
g	Construction Safety and Phasing Plan	2 Sheets
TOTAL SHEET COUNT		13 Sheets

9. Prepare preliminary contract documents. The Engineer will incorporate the contract documents into the Standard Town of Erie Contract Documents including invitation for bids, instructions to bidders, proposal, equal employment opportunity clauses and applicable wage rates, construction contract agreement, performance bond, payment bond, general and special provisions. Preparation will include establishing the location for the bid opening and description of the work schedule. Contract documents will be prepared as early as possible during the design phase and submitted to the FAA and Sponsor for review.
10. Prepare preliminary technical specifications. The Engineer will assemble the technical specifications necessary for the intended work. Standard FAA specifications will be utilized where possible. Additional specifications will be prepared to address work items or material that is not covered by the FAA specifications.

The standard specifications to be utilized for Element 1 may include the following items:

Item P-101	Surface Preparation
Item P-152	Excavation and Embankment
Item P-208	Crushed Aggregate Base Course
Item P-605	Joint Sealing Filler
Item P-620	Runway and Taxiway Painting

The added technical specifications for Element 1 may include but not be limited to the following items:

Item Special-2	Removals
Item Special-6	Watering
Item Special-10	Aircraft Tie-downs
Item Special-501	Portland Cement Concrete Pavement

11. Submit any design modifications to the FAA for approval when the design is approximately 75% complete.

12. Prepare preliminary special provisions to address conditions that require additional clarification and/or definition beyond what is described in the standard general provisions or technical specifications. Items may include:
  - a. Project Location Information
  - b. Insurance Requirements
  - c. Contract Period and Work Schedule and Phasing
  - d. Pre-Construction Conference
  - e. Utilities
  - f. Permits, Taxes and Compliance with Laws
  - g. Field Office Requirements
  - h. Haul Roads
  - i. Testing and Staking
  - j. Airport Security, Closure of Air Operations Areas
  - k. Accident Prevention
  - l. Warranty
13. Conduct preliminary review of the construction plans, technical specifications, contract documents and special provisions by submitting copies of the preliminary documents to the FAA, State and Sponsor and solicit preliminary design review comments.



## **B. Final Design**

In the final design phase, the designer will provide well-defined construction requirements, with selected bid alternatives as appropriate to solicit competitive construction bids. Construction schedules will be coordinated around good weather conditions and as little as practical interference with airport operations. The Project Manager will coordinate with Town of Erie Building Department throughout the design process.

Activities include:

### Final Design

1. Incorporate preliminary design comments and respond as necessary to requests for additional information.
2. Calculate Estimated Quantities. The Engineer will calculate all necessary quantities for the various work items in each Element.
3. Prepare Estimate of Probable Construction Cost for each Element. Using the final quantities calculated following the completion of the plans and specifications, the Engineer will prepare the construction cost estimate. The estimate will be based on information obtained from previous projects, contractors, material suppliers and other databases available.
4. Prepare Engineer's Design Report. During the preparation of the construction plans and specifications, an engineer design report will be prepared. The report will include the summary of the project, pavement, drainage design, schedule and cost estimate for the completion of the project. The design report will follow the current FAA Airports guidance where applicable. The design report will be submitted for Sponsor and FAA review. Review comments will be incorporated in the final revised report.
5. Develop bid schedules for construction. This task involves dividing the construction work into schedules to allow for maximum contract award flexibility in cases of limited available funds, and allow the project to be executed in a manner that minimizes the disruption of the airport aircraft operations.
6. Submit final CSPP by uploading it to the OE/AAA website. Alternatively, at the request of the FAA PM, the CSPP may be submitted directly to the FAA PM.
7. Submit 95% design construction plans, technical specifications, contract documents and special provisions to the FAA, State and Sponsor and solicit design review comments.
8. Incorporate 95% design review comments and respond as necessary to requests for additional information.
9. Prepare and submit final plans and specifications to the FAA and Sponsor. A final set of plans, specifications and contract documents will be prepared which incorporates revisions, modifications and corrections determined during the FAA and Sponsor's review. After final plan acceptance, plan sets will be provided to the FAA and Sponsor.

10. Prepare and/or assist with necessary forms:

- a. Sponsor Quarterly Report
- b. Standard Form 271

### **III. BIDDING AND CONTRACT ADMINISTRATION SERVICES**

During the bidding and contract administration phase of the project, the Engineer will assist the Airport in advertising and letting the project for bid. Engineer will assist in dialogue with potential bidders to quantify bidder questions assist Sponsor in attaining economic bids. After the bid, the Engineer will assist with award and contract administration.

Activities include:

1. Assist the Sponsor with advertising and interpretation of the project requirements. Plans and specifications will be available via the web site of Armstrong Consultants. The Sponsor and FAA will be given a hard copy set of the final plans, specifications and contract documents.
2. Provide technical assistance and recommendations to the Airport during construction bidding.
3. Attend and assist with pre-bid conference. Answer Contractor questions and issue necessary clarifications and addenda.
4. Attend bid opening at the date and time agreed by the Sponsor.
5. Prepare an abstract of bids, perform necessary review of the bids (including verification that all bid forms are included, verification of bid unit prices and math, and verification of DBE goal and status of DBE firms) to determine responsiveness, and prepare award recommendation letter
6. Update preliminary Federal Grant Application prepared during Project Development phase based on bids. The Engineer will submit the application to the Sponsor for approval and signatures.
7. Assist in award notification to successful bidder and notify and return bid bonds to the unsuccessful bidders. Any issues or concerns that arise from the bidding documents will be brought to the attention of the Sponsor for clarification.
8. Coordinate construction contract documents for successful bidder, including contract agreement, bond forms, certificates of inclusion, and Notice to Proceed. Review contractor's bonds, insurance certificates, construction schedules.
9. If there were addenda during the bid process, Provide Sponsor and FAA with hard copies of the revised Contract Documents, Specifications, or Construction Plans (digital copies upon request) stamped as "Issued for Construction". Provide Contractor with digital copy of the Contract Documents, Specifications, and Construction Plans; complete with all addenda.
10. Review and accept the Contractor's Safety Plan Compliance Documents prior to issuing the Notice to Proceed.

#### **IV. CONSTRUCTION PERIOD SERVICES**

During the construction phase of the project, the Engineer will assist the Airport with monitoring, documenting progress for quality and cost control and overall grant administration during construction. The contract time will be 30 calendar days.

Activities include:

##### **A. Construction Administration Services**

1. Conduct pre-construction conference.
2. No AGIS survey requirements are to be conducted as a part of this contract or project.
3. Identify local survey control points used for project design and layout. Engineering staff will assist, as necessary, the resident project representative and Contractor's surveyor during construction by compiling and sending supplemental information regarding issues arising related to construction surveying. Work may include developing alternative survey control based on site conditions discovered during construction and/or findings of the Contractor's surveyor.

##### **B. Construction Inspection Services**

1. Provide review and acceptance of all submittals of materials to be used on the project for conformance with the specifications. Resolve the use or acceptance of any proposed material that doesn't conform to specifications. Review and accept all shop drawings items as required during construction. Note: Engineer's Acceptance of any submittal or shop drawing does not alleviate contractor's responsibility to provide materials and construct the project in conformance with the plans and specifications.
2. Provide a full time resident project representative to monitor and document construction progress for Element 1, confirm conformance with schedules, plans and specifications, measure and document construction pay quantities, document significant conversations or situations, document input or visits by local authorities, etc. Maintain daily log of construction activities.
3. Conduct interviews of the Contractor's and Subcontractor's employees regarding Davis Bacon wage rates and the review of their weekly payroll reports.
4. Prepare and submit weekly inspection reports. Reports will be submitted to the FAA and Sponsor no later than the following week that the report refers to.
5. Conduct final project inspection with the Sponsor, FAA and the contractor after the Summary of Tests has been accepted by the FAA. Any punch list items will be noted and coordinated with the contractor for necessary action
6. Provide technical assistance and recommendations to the airport during construction.
7. Prepare change orders and supplemental agreements, if required; including appropriate cost/price analyses. All coordination of change orders will be provided by the Engineer.

8. Prepare and confirm monthly payment requests. Payment requests will be reviewed for accuracy with contractor and resident inspector. Engineer will prepare FAA payment documents for the Sponsor. The Sponsor will be required to complete the payment reimbursement through the FAA e-invoicing system.

### **C. Acceptance Testing Services**

1. Acceptance Testing will be conducted by a sub-consultant hired by the Engineer. The acceptance testing firm will conduct all laboratory and in-situ acceptance testing per the requirements of the FAA specifications, including items P-208 and the State Specification Concrete. Soils associated with item P-208 will be sampled in the field by the acceptance testing firm, and will be laboratory-tested for grain size, moisture content, maximum dry density, and other properties required by the specifications. In addition, the acceptance testing firm will field-verify the density of soils placed by the Contractor (after assurance from the Contractor's QC testing firm that the material meets specifications), at locations and frequencies required in the specifications.

## **V. PROJECT CLOSEOUT**

During the project closeout phase of the project, the Engineer will assist the Sponsor with compiling all of the reports, documents, and other items necessary to successfully close out the associated grant and provide an accurate historical record for the project.

Activities include:

1. Prepare Summary of Tests report to document the acceptance testing performed on the project.
2. Assist the Sponsor with completing all necessary grant closeout certifications and forms, including advertisement of Notice of Contractor's Settlement. Prepare final Contractor Pay Application after completion of all punch list items discovered at the final inspection.
3. Prepare record drawings, indicating changes made to the design during construction. The FAA and Sponsor will each receive one copy of the record drawings in half size (11"x17") format as well as one in electronic format on a CD.
4. Prepare Final Construction Report. The final report will follow the current FAA AIP Final Report guidance. The Final Construction Report must be submitted to and approved by the FAA prior to final payment authorization to the Engineer. Assist Sponsor in preparing final SF425 and SF271 forms as part of Final Construction Report.